2011 5th Malaysian Conference in Software Engineering

(MySEC 2011)

Johor Bahru, Malaysia 13-14 December 2011



IEEE Catalog Number: ISBN:

CFP1101R-PRT 978-1-4577-1530-3

Table of Contents

Papers

Track 1: Requirement Engineering

101 - Reduce Fault Density For Top 3 Requirement Faults 001

Ros-Liza Abdul Rahman (MIMOS)

- 137- The Adoption Of Uml-Marte Profile For Weakly Hard Real-Time Requirements N/A Habibah Ismail, Dayang N. A. Jawawi (UTM)
- 163- Controlled Vocabulary Based Software Requirements Classification 031

Nasir Mehmood Minhas, Shahla Majeed, Zia ul Qayyum, Muhammad Aasem (UIIT PMAS-Arid Agriculture University, Rawalpindi, Pakistan)

- 208- Requirement Engineering Practice Research Framework For The Public Service Organisation 037 Azlena Haron, Shamsul Sahibuddin, Nor Hawaniah Zakaria (UTM), Mazlan Harun (INTAN)
- 218- Pair Analysis Of Requirements In Software Engineering Education 043
 Kabas Albakry (Information Technology Program, AIS ST HELENS, Auckland, New Zealand), Massila Kamalrudin

Kabas Albakry (Information Technology Program, AIS ST HELENS, Auckland, New Zealand), Massila Kamalrudin (UTEM)

- 114- Using Activity Theory In Analyzing Requirements For Mobile Phone Application 007
 Kamalia Azma Kamaruddin, Nor Shahida Mohamad Yusop, Muhamad Azim Muhamad Ali (UITM, Shah Alam)
- 146- Designing Multiple Types Of Spatial And Non Spatial Databases Integration Model Using Formal Specification Approach 020

Mustafa Man, Mohammad Zaidi Zakaria (UTM), Julaily Aida Jusoh (UNISZA), Mohd. Shafry Mohd. Rahim (UTM)

159- Study On Acceptance Of Customised Software Process Improvement (Spi) Model For Malaysia's Sme 025 Suhaimi Ibrahim (UTM), Raja Zurina Raja Mohamed Ali (SIRIM Berhad)

Track 2: Software Architecture And Design

- 135- A Systematic Literature Review Of Interoperable Architecture For E-Government Portals 082 Khairul Anwar Sedek (UITM, Perlis), Shahida Sulaiman (UTM), Mohd Adib Omar (USM)
- 195- Software Architecture Reliability Prediction Models: An Overview 119 Furkh Zeshan, Radziah Mohamad (UTM)
- 104- Comparison Study Between Traditional And Object-Oriented Approaches To Develop All Projects In Software Engineering 048

Nabil Mohammed Ali Munassar, Dr. A. Govardhan (Jawaharlal Nehru Technological University Hyderabad, India)

- 107- An Agent-Based Model Of Muscle Contraction Process As A Bio-Robotic Process 055 H.R. Khataee, T.N. Mohd Aris, M.N. Sulaiman (UPM)
- 117- Evaluation Of UML MARTE, SOAML Profiles For Distributed Embedded Real-Time Systems Development 061

Muhammad Waqar Aziz, Radziah Mohamad, Dayang N. A. Jawawi (UTM)

123- Wsmo-M: Nfp-Aware Web Service Discovery For Mobile Computing 070 Nor Azizah Saadon, Radziah Mohamad (UTM)

129- Model Transformation Specification For Automated Formal Verification 076

Asmiza Abdul Sani (UM), Fiona A. C. Polack, Richard F. Paige (University of York, UK)

203- Hybrid Simple Artificial Immune System (Sais) And Particle Swarm Optimization (Pso) For Spam Detection 124

Saber Salehi, Ali Selamat (UTM)

138- From Uni-Directional Model Transformation To Incremental Model Synchronization 088

Fatemeh Hassani, Kavan Sedighiani, Fereidoon Shams Aliee (Shahid Beheshti University GC, Iran), Alireza Angabini (University of Tehran, Iran)

142- Analyzing Model Checking Approach For Multi Agent System Verification 095

Najwa Abu Bakar, Ali Selamat (UTM)

170- Architecting A Plug-In Based Tsm Client Application 101

Tanthawat Khemavast (TGGS, KMUTNB, Thailand), Dirk Muthorst, Andreas Kinderreich (KISTERS AG, Germany), Toni Anwar (UTM)

173- Forward Engineering the Object Oriented Analysis and Design 107

Prabodha Tilakaratna, Jayantha Rajapakse (Monash University Sunway Campus, Malaysia)

180- Identifying Refactoring Through Formal Model Based On Data Flow Graph 113

Panita Meananeatra, Songsakdi Rongviriyapanish (Thammasat University, Thailand), Taweesup Apiwattanapong (National Electronics and Computer Technology Center, Thailand)

120- Middleware Framework For Integration Of Heterogeneous Hardware And Software 066

Ahmad Izzuddin bin Abu Bakar , Rodziah Atan , Razali Yaakob (UPM)

219- Ontology-Based Knowledge Model For Virtual Communities Profile 512

Zeti Darleena Eri (Utm, Shah Alam), Rusli Abdullah, Marzanah A. Jabar ,Masrah Azrifah Azmi Murad (Upm)

215- Software Engineering Approach To Enterprise-Strength Ontology Engineering 130

Muthukkaruppan Annamalai ,Marshima Mohd Rosli (UITM, Shah Alam)

Track 3: Software Processes and Workflows

110- Integration Of Cultural Dimensions Into Software Localisation Testing Of Assistive Technology For Deaf Children 136

Tan Ping Ping, Chiu Po Chan, Hamizan Sharbini, Azlina Ahmadi Julaihi (UNIMAS)

118- Software Engineering Traceability Method For Food Ingredient Tracing 141

Nur Adila binti Azram, Rodziah binti Atan (UPM)

127- A Comparative Survey Of Aspect-Oriented Code Generation Approaches 148

Abid Mehmood, Dayang N.A. Jawawi (UTM)

128- A Unified Framework For Software Engineering Process Improvement –

A Taxonomy Comparative Analysis 153

Aedah Abd Rahman (UNIKL), Shamsul Sahibuddin , Suhaimi Ibrahim (UTM)

149- User-Centered Technique For Managing And Tracking Modification Requests In Prototype-Based Web Applications 165

Siti Nor Asikin Kamalzaman, Sharifah Mashita Syed-Mohamad (USM), Shahida Sulaiman (UTM)

160- An Application Tool To Support The Implementation Of Integrated Software Process Improvement For Malaysia's Sme 177

Raja Zurina Raja Mohamed Ali (SIRIM, Malaysia), Suhaimi Ibrahim (UTM)

155- Policy-Based Approach For Dynamic Architectural Adaptation: A Case Study On Location-Based System 171

Abdehamid Abdelhadi Mansor (University of Khartoum, Sudan), Wan M.N. Wan Kadir, Hidayah Elias (UTM)

169- Model Checking And Verification Method Of Engine Control Units 183

Surapa Ratanaprutthakul (TGGS, KMUTNB, Thailand), Sebastian Grobosch (VEMAC Gmbh & Co.KG, Germany)

178- Impact Of Changing Communication Media On Conflict Resolution In Distributed Software Development Projects 189

Huma Ĥayat Khan, Nauman Malik (National University of Modern Languages, Islamabad, Pakistan), Muhammad Usman, Naveed Ikram (International Islamic University, Islamabad, Pakistan)

181- Spials: A Light-Weight Software Process Improvement Self-Assessment Tool 195

Chayakorn Piyabunditkul, Disorn Homchuenchom (TGGS, KMUTNB, Thailand), Horst Lichter (RWTH Aachen, Germany), Toni Anwar (UTM)

185- An Analytical Approach For Project Managers In Effective Defect Management In Software Process 200

T.R. Gopalakrishnan Nair, V. Suma, N. R. Shashi Kumar (Dayananda Sagar Institutions, India)

206- Soa-Based Business Process For Supply Chain Management 213

Mohsen Mohammadi, Muriati Bt. Mukhtar (UKM)

133- CRM Software Implementation Factors in Hospital Software & Patient Perspectives 159

Hossein Monem (UTM), Ab Razak Che Hussin (UTM), Roxana Sharifian (SUMS, Iran), Habib Shaterzadeh (Tahlilgaran Fanavare Eteleate-e-Fars)

188- Applying Particle Swarm Optimization To Software Performance Prediction: An Introduction To The Approach 207

Adil .A. A. Saed, Wan M.N. Wan Kadir (Utm)

Track 4: Software Quality And Testing

105- Reliability Analysis For Pilot Survey In Integrated Survey Management System 220

Raihana Reh, Masru Laili Mursidi, Nur Azlin Atikah Husin (TM R&D)

108- A Clickstream-Based Web Page Significance Ranking Metric For Web Crawlers 223

F. Ahmadi-Abkenari, Ali Selamat (UTM)

119- A Model Of Knowledge Management System In Managing Knowledge Of Software Testing Environment 229

Rusli Abdullah (UPM), Zeti Darleena Erib, Amir Mohamed Talib (UiTM, Shah Alam)

124- An Intermediate Metamodel For Failure-Based Behavior Of Performance And Reliability 234

M.A. Isa, Dayang N.A. Jawawi (UTM)

125- Adopting Six Sigma Approach In Predicting Functional Defects For System Testing 240

Muhammad Dhiauddin Mohamed Suffian, Suhaimi Ibrahim (UTM)

148- Improving Learnability And Understandability Of A Web Application Using An Action-Based Technique 245

Nurul Afiqah Shamsuddin, Sharifah Mashita Syed-Mohamad, Kamal Zuhairi Zamli (USM), Shahida Sulaiman (UTM)

102- Agile Testing With Selenium 217

Rosnisa Abdull Razak, Fairul Rizal Fahrurazi (MIMOS)

156- Efficient Prediction Of Software Fault Proneness Modules Using Support Vector Machines And Probabilistic Neural Networks 251

Hamdi A. Al-Jamimi, Lahouari Ghouti (King Fahd University of Petroleum and Minerals, Saudi Arabia)

- 164- Software Complexity Level Determination Using Software Effort Estimation Use Case Points Metrics 257 Yaeghoob yavari, Mojtaba Karami (Hamedan Branch Islamic Azad University), Mohsen Afsharchi (Zanjan University, Iran)
- 189- Increasing Test Coverage Using Human-Based Approach Of Fault Injection Testing 287
 Nor Shahida Mohamad Yusop, Wan Faezah Abbas, Haryani Haron, Kamalia Azma Kamaruddin (UITM, Shah Alam)
- 192- Prioritizing Interaction Test Suite For T-Way Testing 292 Saidatul K. Said, Rozmie R. Othman, Kamal Z. Zamli (USM)
- 193- An Approach To Estimate The Savings From Negotiation Based On Cost-Benefit Analysis Model 298 Sabrina Ahmad, Azah Kamilah Muda, Noor Azilah Muda, Zahriah Othman (UTEM)
- 205- Feature Subset Selection Method For Dynamic Software Quality Assessment 304
 Siti Sakira Kamaruddin (UUM), Aziz Deraman (UMT), Jamaiah Yahaya (UKM), Ruzita Ahmad (UKM)
- 176- Personalisation As A Tool For Improving Usability Of A Higher Educational Website 275 Faduma Ali Nuradin, Thiam Kian Chiew (UM)
- 174- Software Engineering Curriculum: A Systematic Mapping Study 269

 Muhammad Manan Qadir, Muhammad Usman (International Islamic University Islamabad, Pakistan)
- 165- Power Cable Inspections Using Matlab Graphical User Interface Aided By Thermal Imaging 263 F. Selim Kafrelshiekh (University, Egypt), I. Bedir Tanta (University, Egypt), H. El desuoki (Arab Academy for Science and Technology, Egypt)

177- Critical Component Analyzer - A Novel Test Prioritization Framework For Component Based Real Time Systems 281

D.Jeya Mala (Thiagarajar College of Engineering, India), M. Ramalakshmi Praba (KLN College of Information Technology, India)

Track 5: Software Reuse, Re-Engineering, Domain-Specific Software Engineering

130- A Comparison Of Software Reuse In Software Development Communities 313

Meena Jha (The University of New South Wales, Australia), Liam O'Brien (Australian National University, Australia)

204- Expert-Based Decision Support Framework for Software Reengineering 325

Rahma A. Kamaludeen, Yu-N Cheah (USM), Shahida Sulaiman (UTM)

207- Usability In Software Development: Frameworks Comparison Between Iknowu And User Behavior Analysis Framework (Ubaf) '552

Norliza Abd Razak, Masitah Ghazali (UTM)

214- Investigating Physical Interaction Complexities In Embedded Systems '558

Mahmood Ashraf, Masitah Ghazali (UTM)

161- Multifeature Based Retrieval Of 2d And Color Doppler Echocardiographic Images For Clinical Decision Support '53;

S. Nandagopalan, T S B Sudarshan (Amrita School of Engineering, India), B. S. Adiga (Tata Consultancy Services, India), Dhanalakshmi C (Sri Jayadeva Institute of Cardiovascular Sciences and Research, India)

113- Game-Based Approach And Its Feasibility To Support The Learning Of Object-Oriented Concepts And Programming '529

Aimi Elliyana Rais, Sharifah Mashita Syed-Mohamad (USM), Shahida Sulaiman (UTM)

Track 6: Domain-Specific Software Engineering

131- A Computational System Approach To Develop Student's Based Emotion System: An Alternative Feedback Tool For Lecturers To Enhance Teaching And Learning '564

Deshinta Arrova Dewi, Premylla Jeremiah, Zaidatul Haslinda Bt Abdullah Sani (INTI International University, Malaysia)

132- Gamification Towards Sustainable Mobile Application '56;

Foong Li Law, Chun Kiat Gan (KDU University College), Zarinah Mohd Kasirun (UM)

140- An Hybrid Model Through The Fusion Of Sensitivity Based Linear Learning Method And Type-2 Fuzzy Logic Systems For Modeling Pvt Properties Of Crude Oil Systems '576

Sunday Olusanya Olatunji, Ali Selamat (UTM), Abdul Azeez Abdul Raheem (King Fahd University of Petroleum and Mineral, Kingdom of Saudi Arabia)

- 166- Data Format Notations For Technical Communication Among Hardware and Software Engineers '589 Ali MohammadAliZadeh Ghazijahani, Rodziah Atan (UPM)
- 162- Graph-Based Simulated Annealing And Support Vector Machine in Malware Detection '583 Abubakr Sirageldin, Ali Selamat, Roliana Ibrahim (UTM)

Track 7: Intelligent Software Engineering and Software Components

103- Xmcctree: An Algorithm For Producing Mcctree In Incompact Structure '596

Ummu Sulaim Sazaly, Mohd Hasan Selamat, Salmi Baharom, Marzanah Ab. Jabar (UPM)

111- Negative Selection Algorithm In Artificial Immune System For Spam Detection '59; Ismaila Idris, Ali Selamat (UTM)

115- Self-Adaptive And Multi-Agent Reinforcement Learning In Route Guidance System '5: 5 Mortaza Zolfpour-Arokhlo, Ali Selamat, Siti Zaiton Mohd Hashim (UTM)

122- Contractor Selection Using Fuzzy Comparison Judgement '5::

Ros Haslinda Alias, Noor Maizura Mohamad Noor, Md Yazid Mohd Saman, Mohd Lazim Abdullah (UMT), Ali Selamat (UTM)

154- Reactive Power Load Tracing Via Blended Crossover Continuous Ant Colony Optimization '5; 5

Z. Hamid, I. Musirin, M. M. Othman, M. N. A. Rahim (UiTM, Shah Alam)

196- Calendar Agent With Commonsense Reasoning '5;;

Patricia Anthony, Ooi Yu Wooi (UMS)

209- Object-Oriented Programming Semantics Education Based On Intelligent Agents '626

The Noranis Mohd Aris (UPM), Shahrin Azuan Nazeer (TM R&D)

Track 8: Agile Methodologies And Software Engineering In Practice

109- Using Jira And Redmine In Requirement Development For Agile Methodology '62:

Hasliza Md Sarkan, Tengku Puteri Suhilah Ahmad, Azuraini Abu Bakar (MIMOS Berhad)

187- Content Analysis on Agile Values: A Perception From Software Practitioners '645

Tamer Madi, Zulkhairi Dahalin, Fauziah Baharom (UUM)

200- Service Differentiation for Collaborative Caching Query Process in Mobile Database '64;

Mohamed Ahmed Elfaki Hamidah Ibrahim, Ali Mamat, Mohamed Othman (UPM)

201- AN ENHANCED GENERIC PIPELINE MODEL FOR CODE CLONE DETECTION '656

Al-Fahim Mubarak Ali, Sharifah Mashita Syed-Mohamad (USM), Shahida Sulaiman (UPM)

121- Security Backlog In Scrum Security Practices '636

Zulkarnain Azham, Imran Ghani, Norafida Ithnin (UTM)

134- A File-Based Implementation Of Xml Encryption '63:

Sea Chong Seak, Ng Kang Siong (MIMOS Berhad)

211- Development Of Network Management System For Network Services Provider '65;

Chakrit Wannachakrit (TGSS, KMUTNB, Thailand), Toni Anwar (UTM)

Track 9: Software Components And Knowledge Base Software Engineering

126- Clustering Software Systems To Identify Subsystem Structures Using Knowledgebase '667

Md. Nasim Adnan, Md. Rashedul Islam, Dr. Sazzad Hossain (University of Liberal Arts Bangladesh, Bangladesh)

136- A Model For Knowledge Portal To Support Communities Of Practice '673

Aisyah Ismail (USM), Shahida Sulaiman (UTM)

147- Assessment Of Knowledge Ability Towards Decision-Making In Information Systems From Managers Perspective '687

Muhammad Nadeem Faisal, Waqar Ahmad, Qaisar Abbas (National Textile University, Pakistan), Muhammad Shahbaz, Sohail Tariq (GC University Faisalabad)

150- Knowledge Sharing Management in Offshore Software Development Outsourcing Relationships From Vendors' Perspective: A Systematic Literature Review Protocol '68;

Asad Ullah Alam, Siffat Ullah Khan (University of Malakand Pakistan)

141- Secure Coding In Software Development '67:

Nor Harisah Zainuddin @ Zenah, Normaziah Abd Aziz (IIUM)

151- Intercultural Challenges In Offshore Software Development Outsourcing Relationships: A Systematic Literature Review Protocol '697

Muhammad Ilyas Azeem, Siffat Ullah Khan (University of Malakand Pakistan)

167- Incorporating User's Background Knowledge Into Recommender System For Digital Libraries '6:7 Bahram Amini, Roliana Ibrahim, Mohd Shahizan Othman (UTM)

172- Mobile Language Translator '6;;

Sim Liew Fong, Abdelrahman Osman Elfaki Md Gapar bin Md Johar, Kevin Loo Teow Aik (Management and Science University)

171- Riot: Rapid, Iterative And Off-The-Shelf Tool-Evaluation '6; 5

Thanabbordee Thanarukvudhikorn (TGGS, KMUTNB, Thailand), Andreas Ganser, Horst Lichter (RWTH Aachen, Germany), Toni Anwar (UTM)

198- Empirical Approach In Ontology Engineering: An Assessment On Novice Modelers '727 Namiah Abu Osman, Sin-Ban Ho, Su-Cheng Haw (MMU)

162- Graph-based Simulated Annealing and Support Vector Machine in Malware Detection'6: 3
A. Sirageldin, A. Selamat, R. Ibrahim